



FCC EVALUATION REPORT FOR CERTIFICATION

Applicant : LG Electronics Inc.

19-1, Cheongho-ri, Jinwi-myeon,

Pyeongteak-si, Gyeonggi-do, Korea.

Attn: Mr. Sang-Wook Lee, Chief research engineer

Date of Issue : December 21, 2009

Order Number: GETEC-C1-09-266

Test Report Number: GETEC-E3-09-160

Test Site: Gumi College EMC Center

FCC Registration Number: (100749, 443957)

FCC ID.: BEJ55LE7500UC

Applicant: LG Electronics Inc.

Rule Part(s)	: FCC Part 15 Subpart B
Equipment Class	: Class B computing device peripheral (JBP)
EUT Type	: LED LCD TV/Monitor
Type of Authority	: Certification
Model Name	: 55LE7500-UC, 55LE5400-UC, 55LE5500-UA
Trade Name	: LG

This equipment has been shown to be in compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2003 / Canadian standard ICES-003

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Tested by,

Reviewed by,


Hyoung Seop Kim, Associate Engineer
GUMI College EMC center


Jae-Hoon Jeong, Senior Engineer
GUMI College EMC center



CONTENTS

1. GENERAL INFORMATION	3
2. INTRODUCTION	4
3. PRODUCT INFORMATION	5
3.1 DESCRIPTION OF EUT.....	5
3.2 SUPPORT EQUIPMENT / CABLES USED	6
3.3 MODIFICATION ITEM(S).....	7
4. DESCRIPTION OF TESTS.....	8
4.1 TEST CONDITION.....	8
4.2 CONDUCTED EMISSION	9
4.3 RADIATED EMISSION.....	10
5. CONDUCTED EMISSION.....	11
5.1 OPERATING ENVIRONMENT	11
5.2 TEST SET-UP	11
5.3 MEASUREMENT UNCERTAINTY.....	11
5.4 LIMIT	12
5.5 TEST EQUIPMENT USED.....	12
5.6 TEST DATA FOR CONDUCTED EMISSION	12
6. RADIATED EMISSION	23
6.1 OPERATING ENVIRONMENT	23
6.2 TEST SET-UP	23
6.3 MEASUREMENT UNCERTAINTY.....	23
6.4 LIMIT	24
6.5 TEST EQUIPMENT USED.....	24
6.6 TEST DATA FOR RADIATED EMISSION.....	24
7. SAMPLE CALCULATIONS.....	31
7.1 EXAMPLE 1 :	31
7.2 EXAMPLE 2 :	31
8. RECOMMENDATION & CONCLUSION.....	32
 APPENDIX A – ATTESTATION STATEMENT	
APPENDIX B – ID SAMPLE LABEL & LOCATION	
APPENDIX C – BLOCK DIAGRAM	
APPENDIX D – TEST SET-UP PHOTOGRAPHS	
APPENDIX E – EXTERNAL PHOTOGRAPHS	
APPENDIX F – INTERNAL PHOTOGRAPHS	
APPENDIX G – USER’S MANUAL	



Scope: Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and / or unintentional radiators for compliance with technical rules and regulations of the Federal Communications Commission.

1. General Information

Applicant: LG Electronics Inc.

Applicant Address: 19-1, Cheongho-ri, Jinwi-myeon, Pyeongteak-si, Gyeonggi-do, Korea.

Manufacturer: LG Electronics Inc.

Manufacturer Address: 19-1, Cheongho-ri, Jinwi-myeon, Pyeongteak-si, Gyeonggi-do, Korea.

Contact Person: Mr. Sang-Wook Lee, Chief research engineer

Tel Number: +82-31-610-9623

- **FCC ID.** BEJ55LE7500UC
- **EUT Type** LED LCD TV/Monitor
- **Model Name** 55LE7500-UC, 55LE5400-UC, 55LE5500-UA
- **Trade Name** LG
- **Serial Number** Prototype
- **Rule Part(s)** FCC Part 15 Subpart B
- **Type of Authority** Certification
- **Test Procedure(s)** ANSI C63.4 (2003) / Canadian standard ICES-003
- **Dates of Test** December 15 ~ 16, 2009
- **Place of Test** **Gumi College EMC Center** (FCC Registration Number: 100749, 443957)
407, Bugok-dong, Gumi-si, Gyeongbuk, Korea.
- **Test Report Number** GETEC-E3-09-160
- **Dates of Issue** December 21, 2009



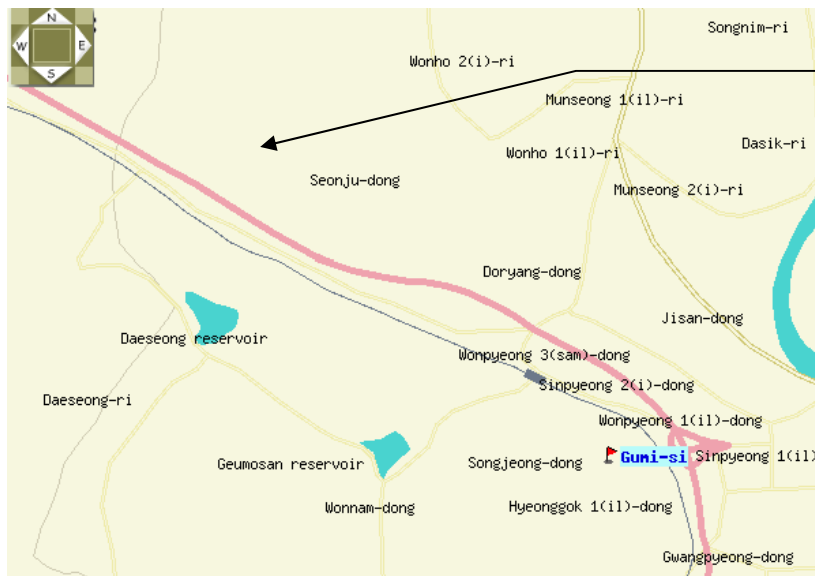
2. Introduction

The measurement procedure described in American National Standard for Methods of Measurement of Radio-Nose Emissions From Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ASNI C63.4-2003) was used in determining radiated and conducted emissions emanating from **LG Electronics Inc. LED LCD TV/Monitor (Model Name: 55LE7500-UC, 55LE5400-UC, 55LE5500-UA)**

These measurement tests were conducted at **Gumi College EMC Center**.

The site address is 407, Bugok-dong, Gumi-si, Gyeongbuk, Korea.

This test site is one of the highest point of Gumi 1 college at about 200 km away from Seoul city and 40 km away from Daegu city. It is located in the valley surrounded by mountains in all directions where ambient radio signal conditions are quiet and a favorable area to measure the radio frequency interference on open field test site for the computing and ISM devices manufactures. The detailed description of the measurement facility was found to be in compliance with the requirements of §2.948 according to ANSI C63.4 (2003)



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Fig 1. The map above shows the Gumi College in vicinity area.



3. Product Information

3.1 Description of EUT

The Equipment under Test (EUT) is the **LG Electronics Inc. LED LCD TV/Monitor (Model Name: 55LE7500-UC, 55LE5400-UC, 55LE5500-UA) FCC ID.: BEJ55LE7500UC**

MODELS		55LE7500 (55LE7500-UC)
Dimensions (Width x Height x Depth)	With stand	1306.0 x 867.7 x 328.0 mm (51.4 x 34.1 x 12.9 inches)
	Without stand	1306.0 x 797.4 x 31.2 mm (51.4 x 31.3 x 1.2 inches)
Weight	With stand	38.4 kg (84.6 lbs)
	Without stand	32.8 kg (72.3 lbs)
Power requirement		AC120V ~ 50/60Hz
Television System		NTSC-M, ATSC, 64 & 256 QAM
Program Coverage		VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135
External Antenna Impedance		75 ohm
Environment condition	Operating Temperature	32 ~ 104°F (0 ~ 40°C)
	Operating Humidity	Less than 80%
	Storage Temperature	-4 ~ 140°F (-20 ~ 60°C)
	Storage Humidity	Less than 85%

Maximum Frequency range : 667 MHz



3.2 Support Equipment / Cables used

3.2.1 Used Support Equipment

Description	Manufacturer	Model Name	S/N & FCC ID
PC	Hewlett Packard	D530	S/N: CNG34800PY FCC ID: DoC
Video card	ATI	ARI RV360(9600)	S/N: SN0402017176 FCC ID: DoC
Keyboard	COMPAQ	166516-AD6	S/N: B13BBOR391006D FCC ID: AQ6-23K15
PS2 mouse	LOGITECH	M-S69	S/N: 334684-108 FCC ID: JNZ211443
Joystick	Microsoft	X05-92626	S/N: 9262600296169 FCC ID: DoC
DVD player	LG Electronics Inc	LC-954	S/N: 3850R-Z674K FCC ID: DoC
Headset	GOWOONSORI	GW-500M	S/N: N/A FCC ID: DoC
Printer	Hewlett Packard	970CXI	S/N: MY9B01F1FG FCC ID: DoC
TV signal generator	FLUKE	54200	S/N: 831011 FCC ID: DoC
USB memory stick	INNATOR Co., Ltd.	XM2-128	S/N: N/A FCC ID: DoC
Wireless Ready Dongle	LG Electronics Inc.	-	S/N: N/A FCC ID: -

See “Appendix D – Test Setup Photographs” for actual system test set-up



3.2.2 Used Cable(s)

Cable Name	Condition	Description
Power cable	Connected to the EUT	1.8 m unshielded
Video(RGB) input cable	Connected to the EUT and PC	1.8 m shielded with two ferrite cores
Video(HDMI/DVI) input cable	Connected to the EUT and PC	1.95 m shielded
Audio input cable	Connected to the EUT and PC	1.8 m shielded
AV input cable	Connected to the EUT and DVD Player	3.0 m shielded
Component input cable	Connected to the EUT and DVD Player	2.0 m shielded
Component sound input cable	Connected to the EUT and DVD Player	3.0 m shielded
Antenna cable	Connected to the EUT and TV signal generator	10.0 m shielded
Headset cable	Connected to the EUT	2.75 m shielded
LAN cable	Connected to the EUT and Network	10.0 m unshielded
Wireless control cable	Connected to the EUT and Wireless Ready Dongle	0.25 m shielded
RS-232C (Service only) cable	Connected to the EUT and PC	1.8 m shielded
Component input 3 cable	Connected to the EUT and DVD player	2.1 m shielded
AV input 2 cable	Connected to the EUT and DVD player	2.24 m shielded

3.3 Modification Item(s)

- None



4. Description of tests

4.1 Test Condition

The EUT was installed, arranged and operated in a manner that is most representative of equipment as typically used. The measurements were carried out while varying operating modes and cable positions within typically arrangement to determine maximum emission level.

The representative and worst test mode(s) were noted in the test report.

- Test Voltage / Frequency : AC 120 V / 60 Hz

- Test Mode(s)

- . Monitor mode

Radiated emission: 1 920 * 1 080 / 60 Hz (RGB: Analog), 1 920 * 1 080 / 60 Hz (HDMI/DVI: Digital)

Conducted emission: 1 920 * 1 080 / 60 Hz (RGB: Analog), 1 920 * 1 080 / 60 Hz (HDMI/DVI: Digital),

1 024 * 768 / 60 Hz (RGB: Analog), 640 * 480 / 60 Hz (RGB: Analog)

◆ Operating test pattern

- . "H" character scrolling mode (Font size: 10)
- . Black background white character
- . Brightness and contrast was adjusted as maximum level
- . 1 kHz sound tone with winamp player
- . Network connecting

- . USB memory stick play mode

◆ Operating test pattern

- . Continuous playback mode with Picture file and 1 kHz audio files.

"The verification report for TV/AV mode would be issued by LG Electronics Inc."



4.2 Conducted Emission

The Line conducted emission test facility is inside a 4 m × 8 m × 2.5 m shielded enclosure. (FCC Registration No.: 100749)

The EUT was placed on a non-conducting 1.0 m by 1.5 m table, which is 0.8 m in height and 0.4 m away from the vertical wall of the shielded enclosure.

The EUT is powered from the Rohde & Schwarz LISN (ESH2-Z5) and the support equipment is powered from the Rohde & Schwarz LISN (ESH3-Z5). Powers to the LISN are filtered by high-current high insertion loss power line filter.

Sufficient time for EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition.

The RF output of the LISN was connected to the EMI test receiver (Rohde & Schwarz, ESCS30).

The EMI test receiver was scanned from 150 kHz to 30 MHz with 20 ms sweep time to determine the frequency producing the maximum EME from the EUT. The frequency producing the maximum level was re-examined using Quasi-Peak mode of the EMI test receiver.

The bandwidth of Quasi-peak mode was set to 9 kHz. Each emission was maximized consistent with typical applications by varying the configuration of the test sample. Interface cables were connected to the available interface ports of the test unit. The effect of varying the position of cables was investigated to find the configuration that produces maximum diagram emission. Excess cable lengths were bundled at center with 30 cm ~ 40 cm.

Each EME reported was calibrated using the R/S signal generator

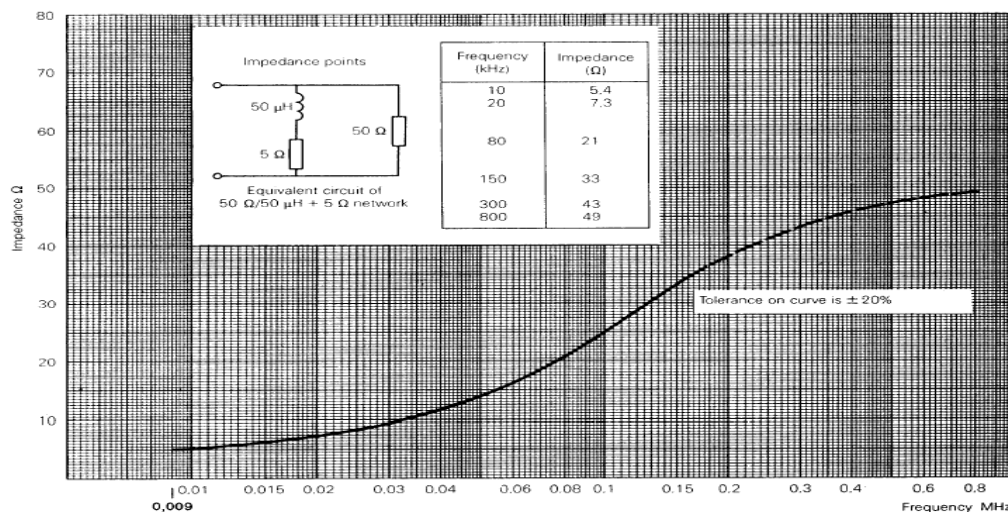


Fig 2. Impedance of LISN



4.3 Radiated Emission

The measurements were conducted 3 m anechoic chamber (FCC Registration No.: 443957) using broadband antennas to determine the frequency producing the maximum EME. Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The technology configuration, mode of operation and turntable azimuth with respect to antenna was note for each frequency found.

The spectrum was scanned from 30 to 1000 MHz, using bicornical log antenna (Schwarzbeck, VULB9160).

Above 1 GHz, horn antenna (Schwarzbeck, BBHA9120D / EMCO 3160) was used.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition.

Each frequency found during pre-scan measurements was re-examined and investigated using EMI test receiver. The detector function was set to CISPR quasi-peak mode average mode and the bandwidth of the receiver was set to 120 kHz or 1MHz depending on the frequency or type of signal.

The EUT, support equipment and interconnecting cables were reconfigured to the setup producing the maximum emission for the frequency and were placed on top of a 0.8 m high non-metallic 1.0 m × 1.5 m table.

The turntable containing the test sample was rotated; the antenna height was varied 1 m to 4 m and stopped at the azimuth or height producing the maximum emission.

Each EME reported was calibrated using the R/S signal generator

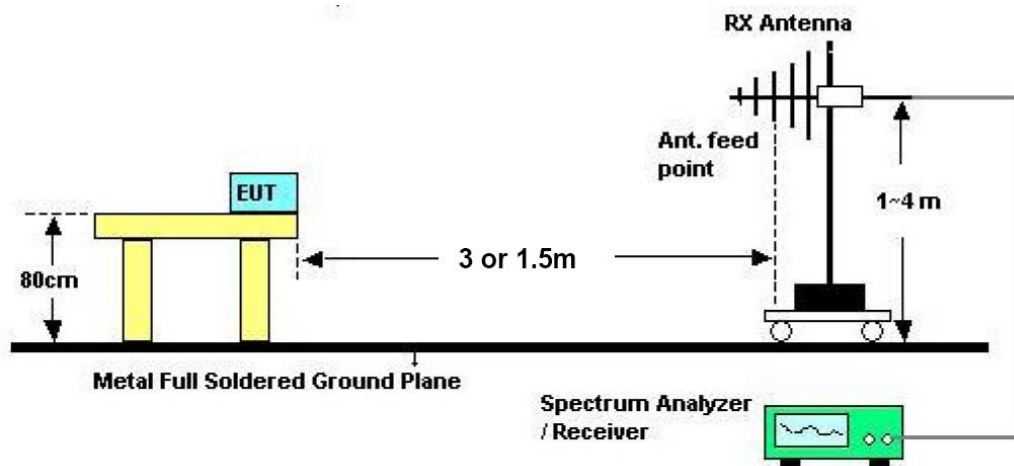


Fig 3. Dimensions of test site.



5. Conducted Emission

5.1 Operating Environment

Temperature : 23 °C
Relative Humidity : 39 % R.H.

5.2 Test Set-up

The conducted emission measurements were performed in the shielded room.

The EUT was placed on wooden table, 0.8 m heights above the floor, 0.4 m from the reference ground plane (GRP) wall and 0.8 m from AMN.

AMN is bonded on horizontal reference ground plane.

The ground plane, which was electrically bonded to the shield room, ground system and all power lines entering the shield room, were filtered.

5.3 Measurement Uncertainty

The measurement uncertainty was calculated in accordance with ISO "Guide to the expression of uncertainty in measurement."

The measurement uncertainty was given with a confidence of 95 %.

Test Items	Uncertainty	Remark
Conducted emission (9 kHz ~ 150 kHz)	± 2.69 dB	Confidence levels of 95 % (k=2)
Conducted emission (150 kHz ~ 30 MHz)	± 4.16 dB	Confidence levels of 95 % (k=2)



5.4 Limit

RFI Conducted	FCC Limit(dB) Class B	
Freq. Range	Quasi-Peak	Average
150 kHz ~ 0.5 MHz	66 ~ 56*	56 ~ 46*
0.5 MHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50
*Limits decreases linearly with the logarithm of frequency.		

5.5 Test Equipment used

Model Name	Manufacturer	Description	Serial Number	Due to Calibration
■ - ESCS30	Rohde & Schwarz	EMI test receiver	839809/003	12. 10. 2010
■ - ESH3-Z5	Rohde & Schwarz	LISN	838979/020	12. 10. 2010
■ - ESH2-Z5	Rohde & Schwarz	LISN	829991/009	12. 10. 2010
■ - ISN T8	TESEQ. GmbH	ISN	24568	10. 16. 2010

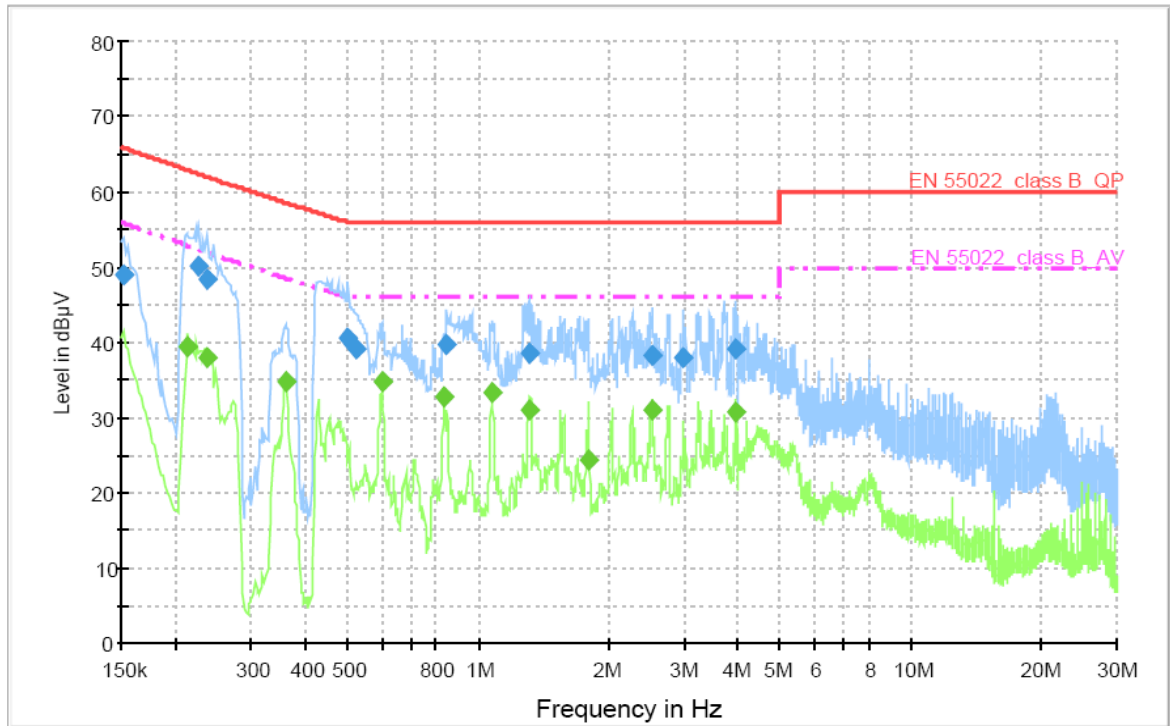
5.6 Test data for Conducted Emission

- . Test Date : December 15, 2009
- . Resolution Bandwidth : 9 kHz
- . Frequency Range : 0.15 MHz ~ 30 MHz



◆ Test resolution: 1 920 * 1 080 / 60 Hz (RGB: Analog mode)

Voltage with 4-Line-LISN_L1



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.152000	49.1	1000.000	9.000	GND	L1	10.0	16.8	65.9	
0.226000	50.1	1000.000	9.000	GND	L1	10.0	12.3	62.4	
0.236000	48.5	1000.000	9.000	GND	L1	10.0	13.5	62.0	
0.500000	40.7	1000.000	9.000	GND	L1	10.0	15.3	56.0	
0.520000	39.0	1000.000	9.000	GND	L1	10.0	17.0	56.0	
0.848000	39.6	1000.000	9.000	GND	L1	10.0	16.4	56.0	
1.308000	38.6	1000.000	9.000	GND	L1	10.1	17.4	56.0	
2.534000	38.4	1000.000	9.000	GND	L1	10.1	17.6	56.0	
2.976000	38.0	1000.000	9.000	GND	L1	10.1	18.0	56.0	
3.952000	39.1	1000.000	9.000	GND	L1	10.2	16.9	56.0	

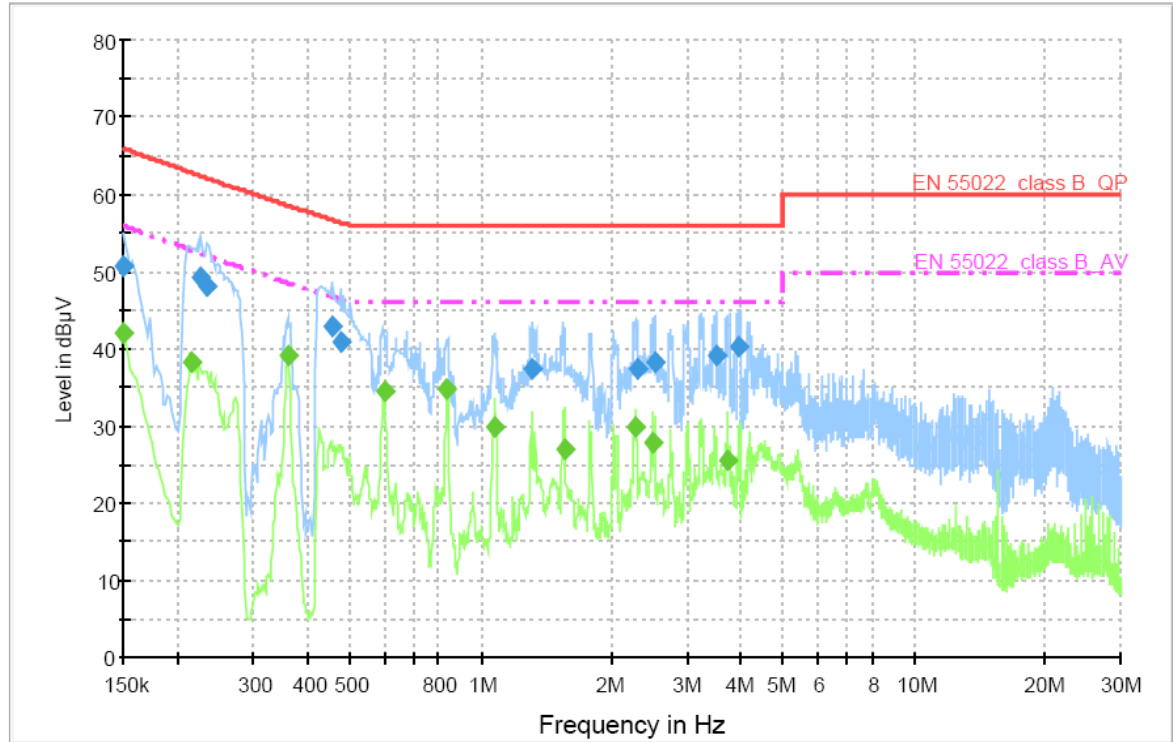
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.214000	39.5	1000.000	9.000	GND	L1	10.0	13.3	52.8	
0.236000	38.1	1000.000	9.000	GND	L1	10.0	13.9	52.0	
0.360000	34.8	1000.000	9.000	GND	L1	10.0	13.7	48.5	
0.600000	34.8	1000.000	9.000	GND	L1	10.0	11.2	46.0	
0.834000	32.7	1000.000	9.000	GND	L1	10.0	13.3	46.0	
1.080000	33.4	1000.000	9.000	GND	L1	10.0	12.6	46.0	
1.322000	30.9	1000.000	9.000	GND	L1	10.1	15.1	46.0	
1.800000	24.2	1000.000	9.000	GND	L1	10.1	21.8	46.0	
2.516000	31.1	1000.000	9.000	GND	L1	10.1	14.9	46.0	
3.956000	30.8	1000.000	9.000	GND	L1	10.2	15.2	46.0	

< Fig 4. Conducted emission result (Live line)>



Voltage with 4-Line-LISN_N



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	50.6	1000.000	9.000	GND	N	10.0	15.4	66.0	
0.226000	49.4	1000.000	9.000	GND	N	10.0	13.0	62.4	
0.234000	48.2	1000.000	9.000	GND	N	10.0	13.9	62.1	
0.452000	42.8	1000.000	9.000	GND	N	10.0	14.0	56.8	
0.476000	41.0	1000.000	9.000	GND	N	10.0	15.4	56.4	
1.322000	37.3	1000.000	9.000	GND	N	10.1	18.7	56.0	
2.290000	37.4	1000.000	9.000	GND	N	10.1	18.6	56.0	
2.514000	38.2	1000.000	9.000	GND	N	10.1	17.8	56.0	
3.486000	39.2	1000.000	9.000	GND	N	10.2	16.8	56.0	
3.922000	40.3	1000.000	9.000	GND	N	10.2	15.7	56.0	

Final Measurement Detector 2

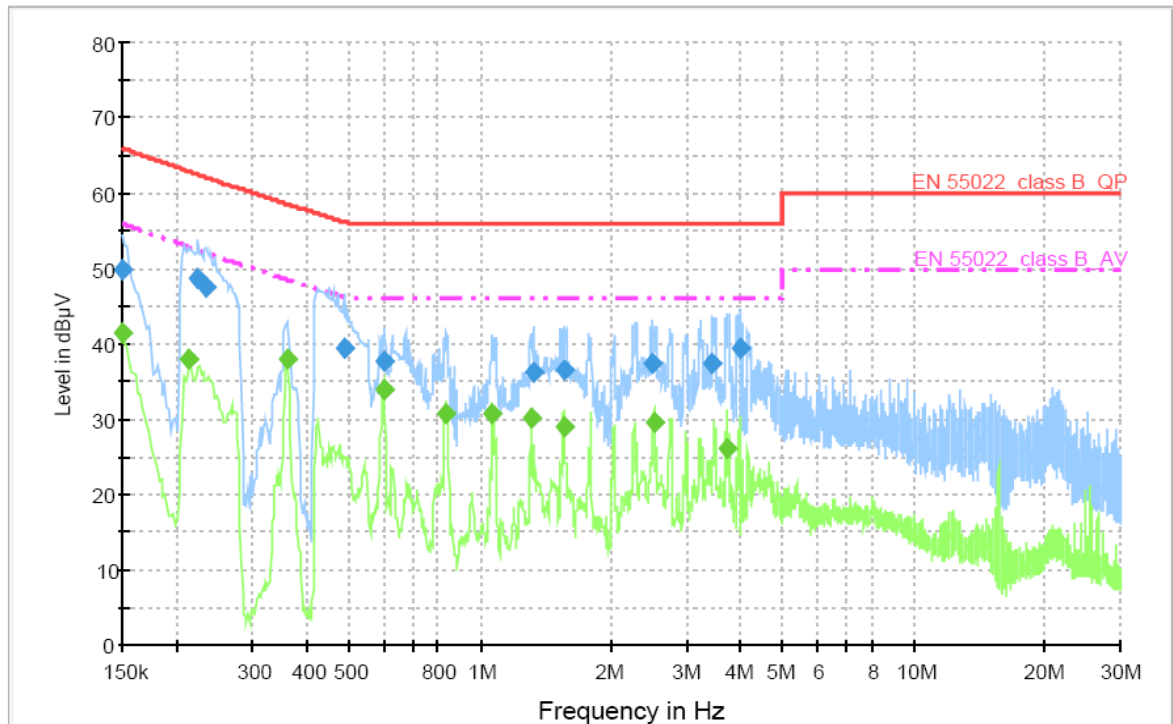
Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	42.0	1000.000	9.000	GND	N	10.0	14.0	56.0	
0.216000	38.4	1000.000	9.000	GND	N	10.0	14.4	52.8	
0.360000	39.0	1000.000	9.000	GND	N	10.0	9.5	48.5	
0.598000	34.4	1000.000	9.000	GND	N	10.0	11.6	46.0	
0.838000	34.7	1000.000	9.000	GND	N	10.0	11.3	46.0	
1.082000	29.7	1000.000	9.000	GND	N	10.1	16.3	46.0	
1.560000	26.9	1000.000	9.000	GND	N	10.1	19.1	46.0	
2.280000	29.8	1000.000	9.000	GND	N	10.1	16.2	46.0	
2.498000	27.9	1000.000	9.000	GND	N	10.1	18.1	46.0	
3.712000	25.5	1000.000	9.000	GND	N	10.2	20.5	46.0	

< Fig 5. Conducted emission result (Neutral line)>



◆ Test resolution: 1 920 * 1 080 / 60 Hz (HDMI/DVI: Digital mode)

Voltage with 4-Line-LISN_L1



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	50.0	1000.000	9.000	GND	L1	10.0	16.0	66.0	
0.224000	48.7	1000.000	9.000	GND	L1	10.0	13.8	62.5	
0.234000	47.5	1000.000	9.000	GND	L1	10.0	14.6	62.1	
0.488000	39.5	1000.000	9.000	GND	L1	10.0	16.7	56.2	
0.600000	37.7	1000.000	9.000	GND	L1	10.0	18.3	56.0	
1.334000	36.2	1000.000	9.000	GND	L1	10.1	19.8	56.0	
1.566000	36.5	1000.000	9.000	GND	L1	10.1	19.5	56.0	
2.510000	37.3	1000.000	9.000	GND	L1	10.1	18.7	56.0	
3.434000	37.4	1000.000	9.000	GND	L1	10.1	18.6	56.0	
3.964000	39.3	1000.000	9.000	GND	L1	10.2	16.7	56.0	

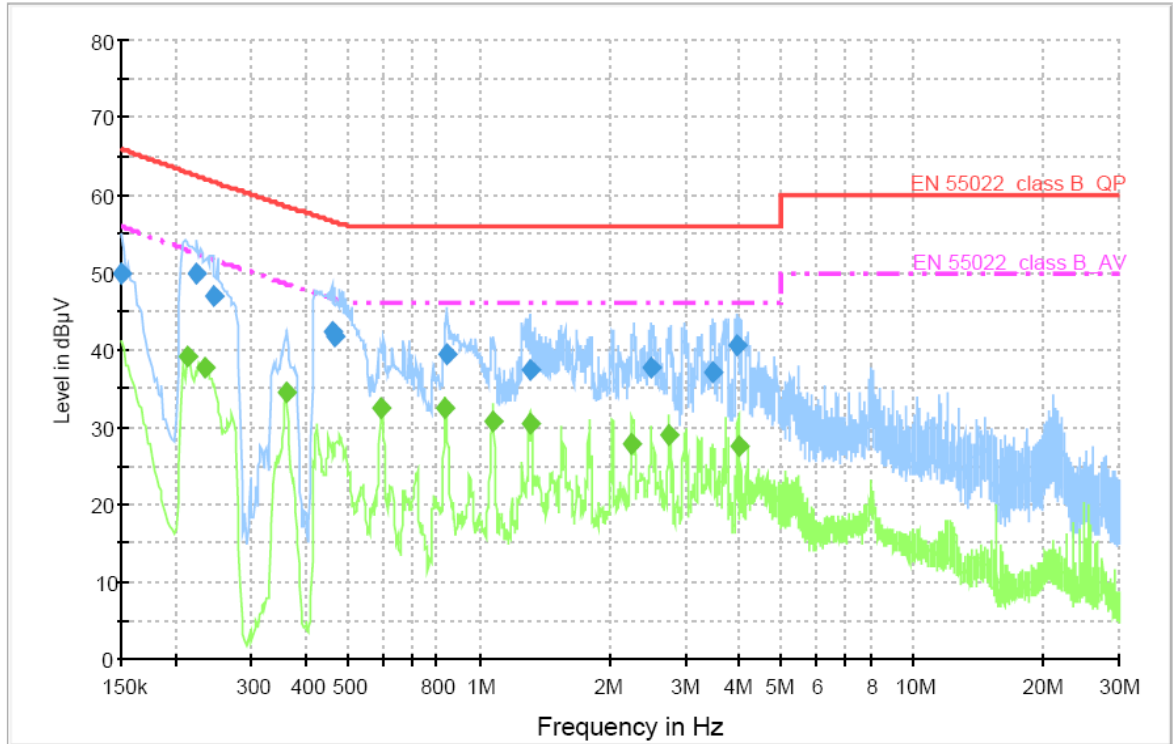
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	41.3	1000.000	9.000	GND	L1	10.0	14.7	56.0	
0.214000	38.0	1000.000	9.000	GND	L1	10.0	14.8	52.8	
0.358000	38.0	1000.000	9.000	GND	L1	10.0	10.6	48.6	
0.600000	33.9	1000.000	9.000	GND	L1	10.0	12.1	46.0	
0.832000	30.8	1000.000	9.000	GND	L1	10.0	15.2	46.0	
1.070000	30.7	1000.000	9.000	GND	L1	10.0	15.3	46.0	
1.314000	30.2	1000.000	9.000	GND	L1	10.1	15.8	46.0	
1.560000	29.1	1000.000	9.000	GND	L1	10.1	16.9	46.0	
2.514000	29.5	1000.000	9.000	GND	L1	10.1	16.5	46.0	
3.716000	26.0	1000.000	9.000	GND	L1	10.2	20.0	46.0	

< Fig 6. Conducted emission result (Live line)>



Voltage with 4-Line-LISN_N



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	50.0	1000.000	9.000	GND	N	10.0	16.0	66.0	
0.224000	49.8	1000.000	9.000	GND	N	10.0	12.7	62.5	
0.244000	47.0	1000.000	9.000	GND	N	10.0	14.8	61.8	
0.458000	42.2	1000.000	9.000	GND	N	10.0	14.5	56.7	
0.466000	41.9	1000.000	9.000	GND	N	10.0	14.6	56.5	
0.846000	39.4	1000.000	9.000	GND	N	10.0	16.6	56.0	
1.308000	37.5	1000.000	9.000	GND	N	10.1	18.5	56.0	
2.506000	37.6	1000.000	9.000	GND	N	10.1	18.4	56.0	
3.462000	37.2	1000.000	9.000	GND	N	10.2	18.8	56.0	
3.956000	40.6	1000.000	9.000	GND	N	10.2	15.4	56.0	

Final Measurement Detector 2

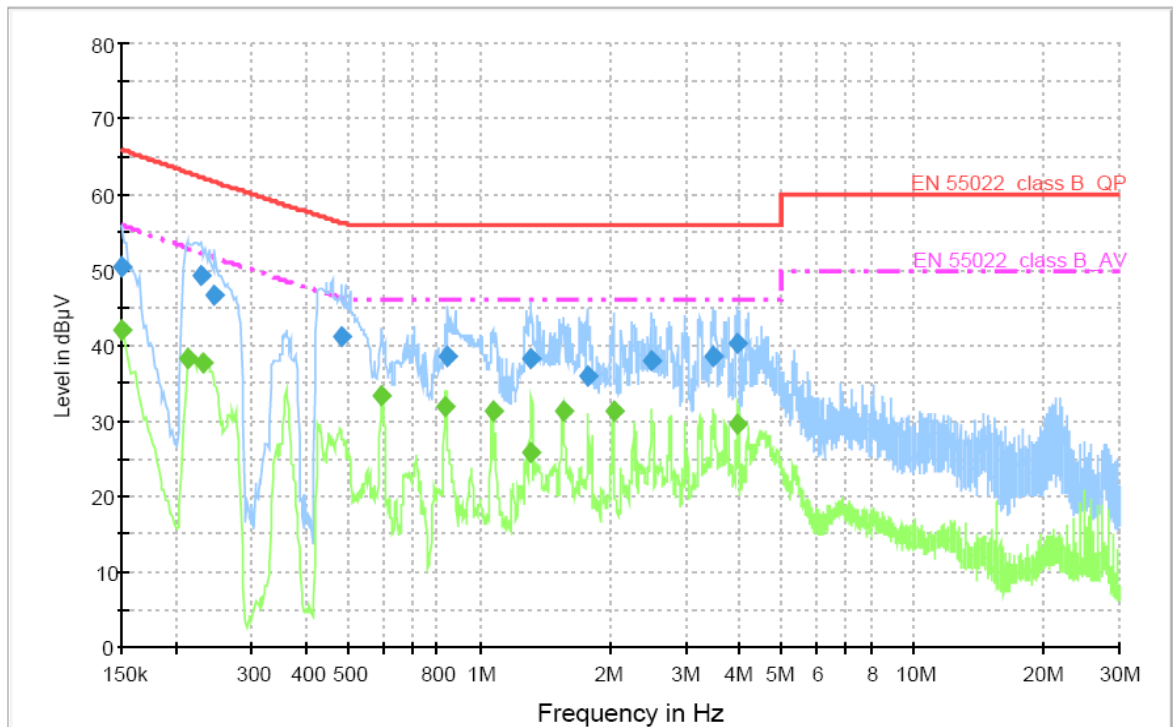
Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.212000	39.2	1000.000	9.000	GND	N	10.0	13.7	52.9	
0.234000	37.6	1000.000	9.000	GND	N	10.0	14.5	52.1	
0.358000	34.4	1000.000	9.000	GND	N	10.0	14.2	48.6	
0.596000	32.6	1000.000	9.000	GND	N	10.0	13.4	46.0	
0.836000	32.5	1000.000	9.000	GND	N	10.0	13.5	46.0	
1.080000	30.7	1000.000	9.000	GND	N	10.1	15.3	46.0	
1.322000	30.6	1000.000	9.000	GND	N	10.1	15.4	46.0	
2.260000	27.9	1000.000	9.000	GND	N	10.1	18.1	46.0	
2.756000	29.1	1000.000	9.000	GND	N	10.1	16.9	46.0	
3.962000	27.5	1000.000	9.000	GND	N	10.2	18.6	46.0	

< Fig 7. Conducted emission result (Neutral line)>



◆ Test resolution: 1 024 * 768 / 60 Hz (RGB: Analog mode)

Voltage with 4-Line-LISN_L1



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	50.4	1000.000	9.000	GND	L1	10.0	15.6	66.0	
0.228000	49.3	1000.000	9.000	GND	L1	10.0	13.0	62.3	
0.246000	46.8	1000.000	9.000	GND	L1	10.0	14.9	61.7	
0.482000	41.3	1000.000	9.000	GND	L1	10.0	15.0	56.3	
0.848000	38.6	1000.000	9.000	GND	L1	10.0	17.4	56.0	
1.310000	38.2	1000.000	9.000	GND	L1	10.1	17.8	56.0	
1.772000	35.8	1000.000	9.000	GND	L1	10.1	20.2	56.0	
2.504000	38.0	1000.000	9.000	GND	L1	10.1	18.0	56.0	
3.446000	38.7	1000.000	9.000	GND	L1	10.1	17.3	56.0	
3.932000	40.3	1000.000	9.000	GND	L1	10.2	15.7	56.0	

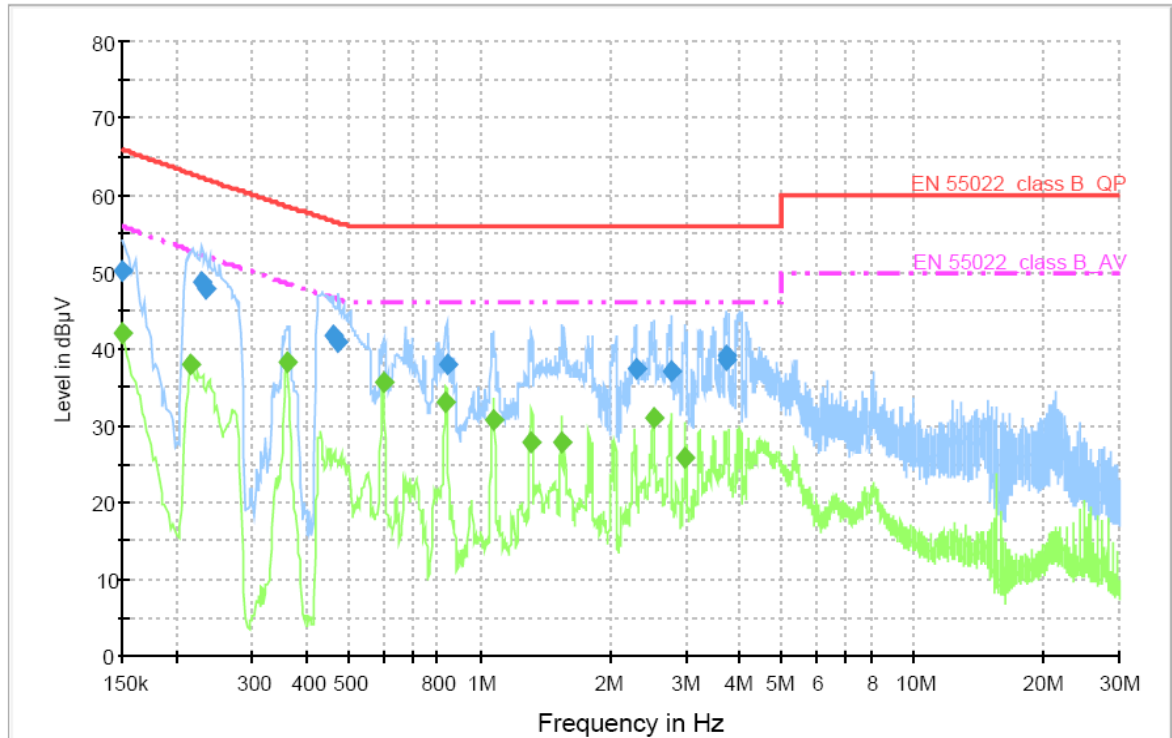
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	42.1	1000.000	9.000	GND	L1	10.0	13.9	56.0	
0.214000	38.4	1000.000	9.000	GND	L1	10.0	14.4	52.8	
0.232000	37.7	1000.000	9.000	GND	L1	10.0	14.4	52.1	
0.596000	33.2	1000.000	9.000	GND	L1	10.0	12.8	46.0	
0.838000	31.8	1000.000	9.000	GND	L1	10.0	14.2	46.0	
1.072000	31.3	1000.000	9.000	GND	L1	10.0	14.7	46.0	
1.322000	25.8	1000.000	9.000	GND	L1	10.1	20.2	46.0	
1.558000	31.4	1000.000	9.000	GND	L1	10.1	14.6	46.0	
2.040000	31.4	1000.000	9.000	GND	L1	10.1	14.6	46.0	
3.960000	29.7	1000.000	9.000	GND	L1	10.2	16.3	46.0	

< Fig 8. Conducted emission result (Live line)>



Voltage with 4-Line-LISN_N



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	50.0	1000.000	9.000	GND	N	10.0	16.0	66.0	
0.228000	48.6	1000.000	9.000	GND	N	10.0	13.7	62.3	
0.234000	47.8	1000.000	9.000	GND	N	10.0	14.3	62.1	
0.460000	41.8	1000.000	9.000	GND	N	10.0	14.8	56.6	
0.472000	40.9	1000.000	9.000	GND	N	10.0	15.5	56.4	
0.840000	38.0	1000.000	9.000	GND	N	10.0	18.0	56.0	
2.306000	37.3	1000.000	9.000	GND	N	10.1	18.7	56.0	
2.766000	37.1	1000.000	9.000	GND	N	10.1	18.9	56.0	
3.694000	38.7	1000.000	9.000	GND	N	10.2	17.3	56.0	
3.726000	39.1	1000.000	9.000	GND	N	10.2	16.9	56.0	

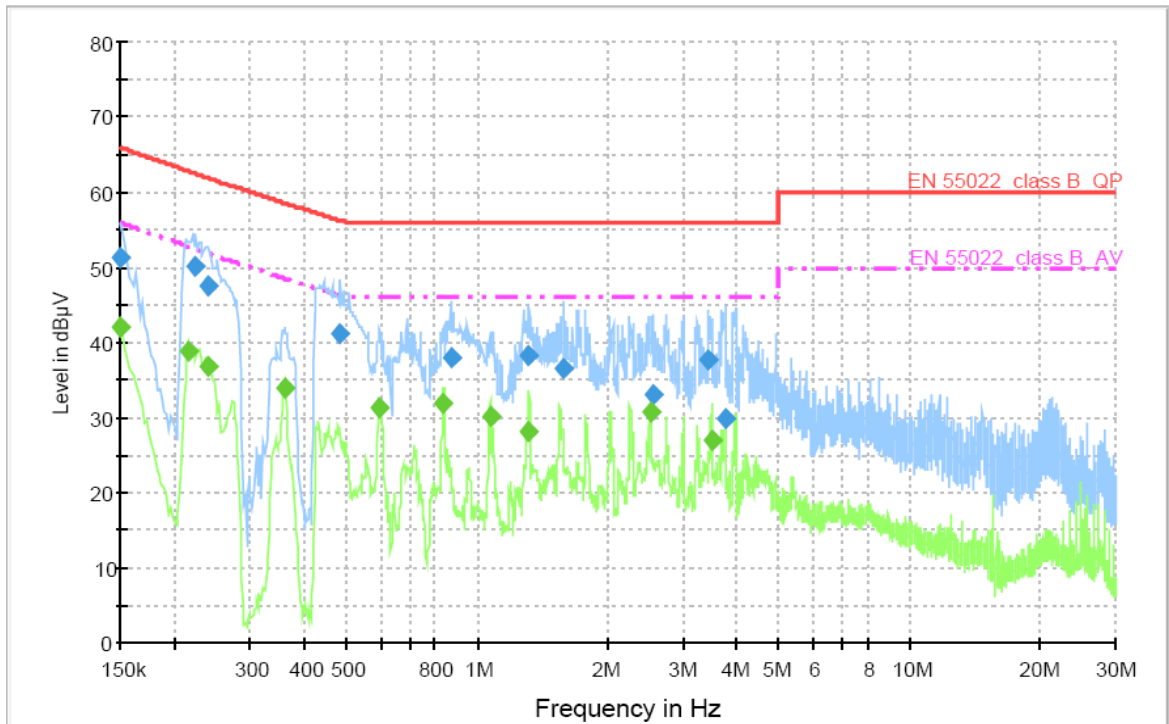
Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	42.0	1000.000	9.000	GND	N	10.0	14.0	56.0	
0.216000	38.1	1000.000	9.000	GND	N	10.0	14.7	52.8	
0.358000	38.4	1000.000	9.000	GND	N	10.0	10.2	48.6	
0.598000	35.6	1000.000	9.000	GND	N	10.0	10.4	46.0	
0.838000	32.9	1000.000	9.000	GND	N	10.0	13.1	46.0	
1.080000	30.7	1000.000	9.000	GND	N	10.1	15.3	46.0	
1.322000	28.0	1000.000	9.000	GND	N	10.1	18.0	46.0	
1.548000	27.8	1000.000	9.000	GND	N	10.1	18.2	46.0	
2.518000	30.9	1000.000	9.000	GND	N	10.1	15.1	46.0	
2.978000	25.8	1000.000	9.000	GND	N	10.1	20.2	46.0	

< Fig 9. Conducted emission result (Neutral line)>



◆ Test resolution: 640 * 480 / 60 Hz (RGB: Analog mode)
Voltage with 4-Line-LISN_L1



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	51.3	1000.000	9.000	GND	L1	10.0	14.7	66.0	
0.224000	50.1	1000.000	9.000	GND	L1	10.0	12.4	62.5	
0.240000	47.4	1000.000	9.000	GND	L1	10.0	14.5	61.9	
0.484000	41.1	1000.000	9.000	GND	L1	10.0	15.1	56.2	
0.870000	38.0	1000.000	9.000	GND	L1	10.0	18.0	56.0	
1.322000	38.2	1000.000	9.000	GND	L1	10.1	17.8	56.0	
1.582000	36.5	1000.000	9.000	GND	L1	10.1	19.5	56.0	
2.548000	33.2	1000.000	9.000	GND	L1	10.1	22.8	56.0	
3.432000	37.8	1000.000	9.000	GND	L1	10.1	18.2	56.0	
3.764000	30.0	1000.000	9.000	GND	L1	10.2	26.0	56.0	

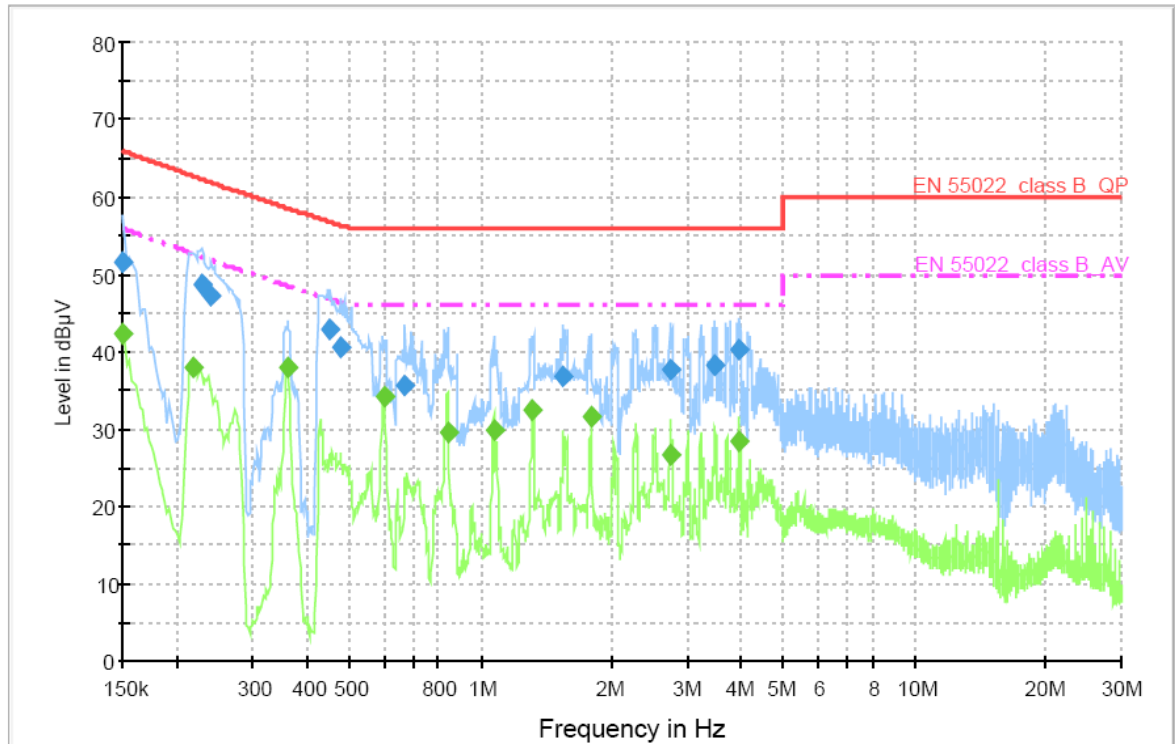
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	42.1	1000.000	9.000	GND	L1	10.0	13.9	56.0	
0.216000	38.9	1000.000	9.000	GND	L1	10.0	13.9	52.8	
0.238000	36.9	1000.000	9.000	GND	L1	10.0	15.0	51.9	
0.358000	34.0	1000.000	9.000	GND	L1	10.0	14.6	48.6	
0.594000	31.2	1000.000	9.000	GND	L1	10.0	14.8	46.0	
0.838000	32.0	1000.000	9.000	GND	L1	10.0	14.0	46.0	
1.072000	30.1	1000.000	9.000	GND	L1	10.0	15.9	46.0	
1.322000	28.1	1000.000	9.000	GND	L1	10.1	17.9	46.0	
2.522000	30.6	1000.000	9.000	GND	L1	10.1	15.4	46.0	
3.488000	27.0	1000.000	9.000	GND	L1	10.1	19.0	46.0	

< Fig 10. Conducted emission result (Live line)>



Voltage with 4-Line-LISN_N



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	51.5	1000.000	9.000	GND	N	10.0	14.5	66.0	
0.228000	48.7	1000.000	9.000	GND	N	10.0	13.6	62.3	
0.240000	47.2	1000.000	9.000	GND	N	10.0	14.7	61.9	
0.450000	42.9	1000.000	9.000	GND	N	10.0	13.9	56.8	
0.478000	40.6	1000.000	9.000	GND	N	10.0	15.7	56.3	
0.672000	35.7	1000.000	9.000	GND	N	10.0	20.3	56.0	
1.552000	36.8	1000.000	9.000	GND	N	10.1	19.2	56.0	
2.732000	37.6	1000.000	9.000	GND	N	10.1	18.4	56.0	
3.476000	38.4	1000.000	9.000	GND	N	10.2	17.6	56.0	
3.956000	40.4	1000.000	9.000	GND	N	10.2	15.6	56.0	

Final Measurement Detector 2

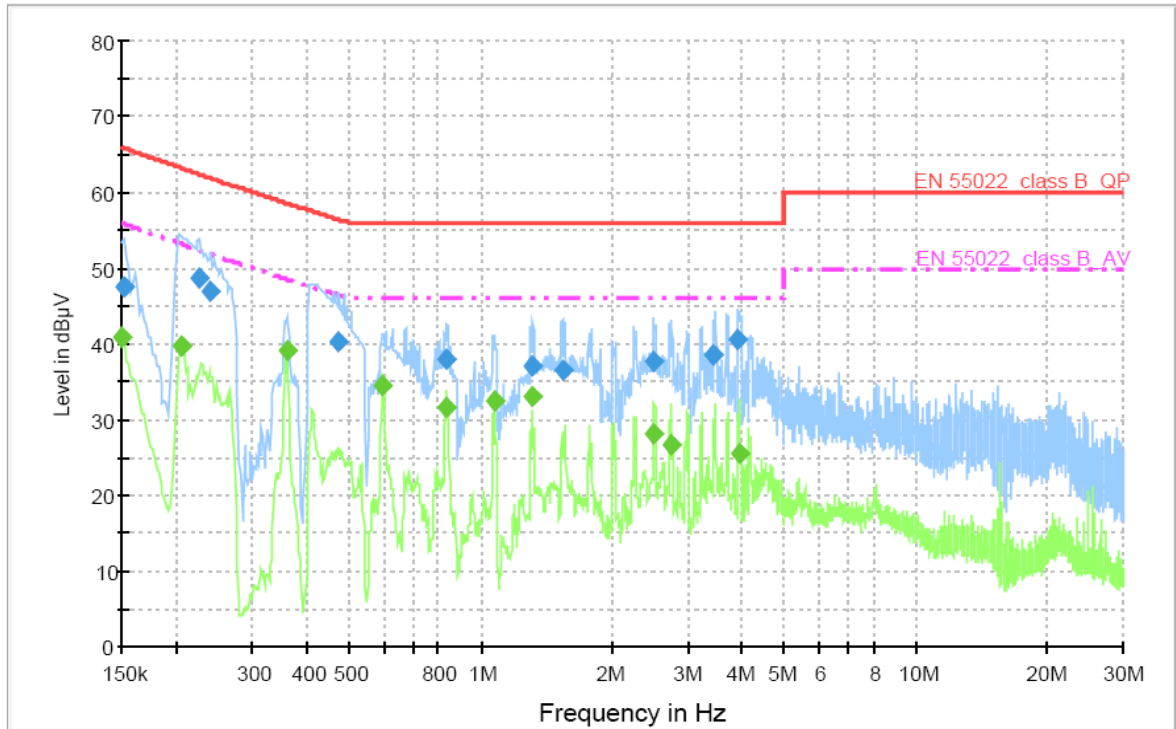
Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	42.3	1000.000	9.000	GND	N	10.0	13.7	56.0	
0.218000	38.1	1000.000	9.000	GND	N	10.0	14.6	52.7	
0.360000	38.0	1000.000	9.000	GND	N	10.0	10.5	48.5	
0.598000	34.1	1000.000	9.000	GND	N	10.0	11.9	46.0	
0.840000	29.6	1000.000	9.000	GND	N	10.0	16.4	46.0	
1.072000	29.9	1000.000	9.000	GND	N	10.1	16.1	46.0	
1.320000	32.5	1000.000	9.000	GND	N	10.1	13.5	46.0	
1.802000	31.5	1000.000	9.000	GND	N	10.1	14.5	46.0	
2.736000	26.7	1000.000	9.000	GND	N	10.1	19.3	46.0	
3.956000	28.3	1000.000	9.000	GND	N	10.2	17.7	46.0	

< Fig 11. Conducted emission result (Neutral line)>



◆ Test resolution: USB memory stick play mode

Voltage with 4-Line-LISN_L1



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.152000	47.7	1000.000	9.000	GND	L1	10.0	18.2	65.9	
0.226000	48.7	1000.000	9.000	GND	L1	10.0	13.7	62.4	
0.240000	47.1	1000.000	9.000	GND	L1	10.0	14.8	61.9	
0.472000	40.4	1000.000	9.000	GND	L1	10.0	16.0	56.4	
0.838000	38.0	1000.000	9.000	GND	L1	10.0	18.0	56.0	
1.316000	37.1	1000.000	9.000	GND	L1	10.1	18.9	56.0	
1.540000	36.7	1000.000	9.000	GND	L1	10.1	19.3	56.0	
2.506000	37.6	1000.000	9.000	GND	L1	10.1	18.4	56.0	
3.434000	38.5	1000.000	9.000	GND	L1	10.1	17.5	56.0	
3.902000	40.5	1000.000	9.000	GND	L1	10.2	15.5	56.0	

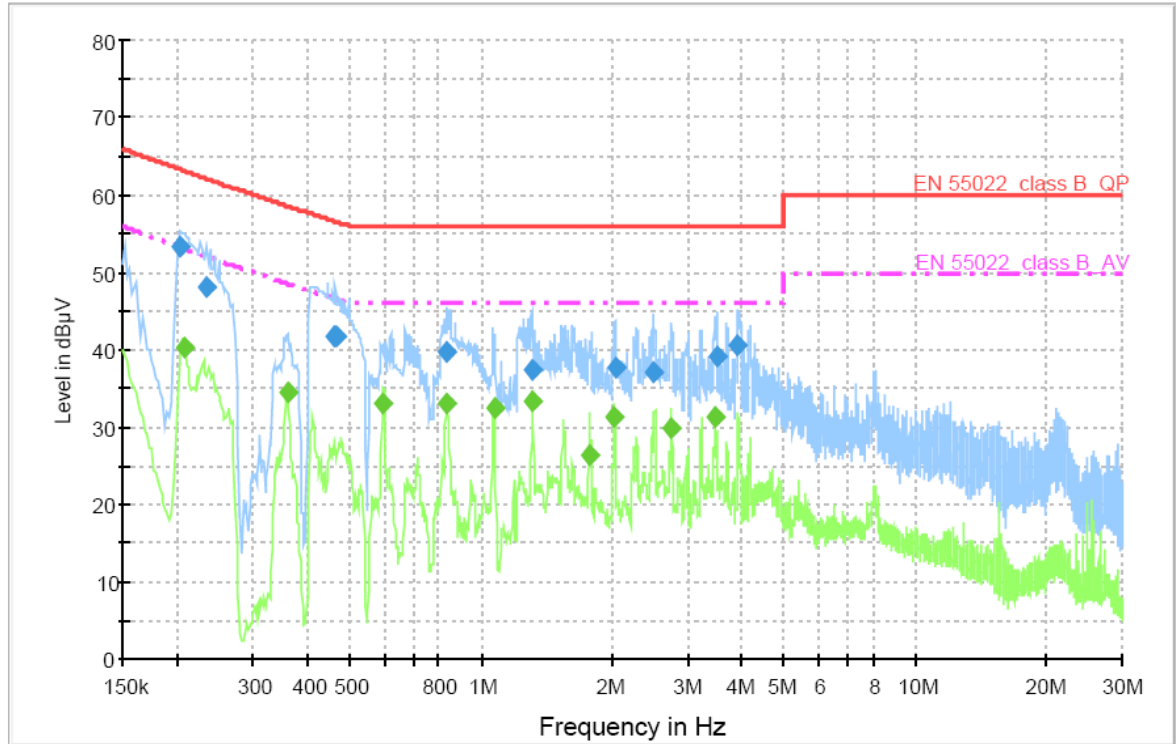
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	40.9	1000.000	9.000	GND	L1	10.0	15.1	56.0	
0.206000	39.7	1000.000	9.000	GND	L1	10.0	13.6	53.2	
0.358000	39.2	1000.000	9.000	GND	L1	10.0	9.4	48.6	
0.596000	34.5	1000.000	9.000	GND	L1	10.0	11.6	46.0	
0.836000	31.5	1000.000	9.000	GND	L1	10.0	14.5	46.0	
1.072000	32.4	1000.000	9.000	GND	L1	10.0	13.6	46.0	
1.316000	33.1	1000.000	9.000	GND	L1	10.1	12.9	46.0	
2.512000	28.2	1000.000	9.000	GND	L1	10.1	17.8	46.0	
2.752000	26.6	1000.000	9.000	GND	L1	10.1	19.4	46.0	
3.934000	25.6	1000.000	9.000	GND	L1	10.2	20.4	46.0	

< Fig 12. Conducted emission result (Live line)>



Voltage with 4-Line-LISN_N



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.204000	53.2	1000.000	9.000	GND	N	10.0	10.1	63.3	
0.234000	48.0	1000.000	9.000	GND	N	10.0	14.1	62.1	
0.462000	41.8	1000.000	9.000	GND	N	10.0	14.8	56.6	
0.464000	41.7	1000.000	9.000	GND	N	10.0	14.9	56.6	
0.836000	39.8	1000.000	9.000	GND	N	10.0	16.2	56.0	
1.308000	37.3	1000.000	9.000	GND	N	10.1	18.7	56.0	
2.038000	37.7	1000.000	9.000	GND	N	10.1	18.3	56.0	
2.494000	37.0	1000.000	9.000	GND	N	10.1	19.0	56.0	
3.494000	39.1	1000.000	9.000	GND	N	10.2	16.9	56.0	
3.912000	40.6	1000.000	9.000	GND	N	10.2	15.4	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.208000	40.2	1000.000	9.000	GND	N	10.0	12.9	53.1	
0.358000	34.5	1000.000	9.000	GND	N	10.0	14.1	48.6	
0.596000	33.1	1000.000	9.000	GND	N	10.0	12.9	46.0	
0.834000	33.1	1000.000	9.000	GND	N	10.0	12.9	46.0	
1.078000	32.5	1000.000	9.000	GND	N	10.1	13.5	46.0	
1.316000	33.3	1000.000	9.000	GND	N	10.1	12.7	46.0	
1.780000	26.4	1000.000	9.000	GND	N	10.1	19.6	46.0	
2.028000	31.4	1000.000	9.000	GND	N	10.1	14.6	46.0	
2.740000	29.9	1000.000	9.000	GND	N	10.1	16.1	46.0	
3.470000	31.2	1000.000	9.000	GND	N	10.2	14.8	46.0	

< Fig 13. Conducted emission result (Neutral line)>



6. Radiated Emission

6.1 Operating Environment

Temperature : 21 °C
Relative Humidity : 46 % R.H.

6.2 Test Set-up

A preliminary and final measurement was at 3 m anechoic chamber.

The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane.

The turntable with EUT was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels.

This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

6.3 Measurement Uncertainty

The measurement uncertainty was calculated in accordance with ISO “Guide to the expression of uncertainty in measurement”.

The measurement uncertainty was given with a confidence of 95 %.

Test Items	Uncertainty	Remark
Radiated emission (30 MHz ~ 300 MHz, 3 m, Vertical)	± 3.54 dB	Confidence levels of 95 % (k=2)
Radiated emission (30 MHz ~ 300 MHz, 3 m, Horizontal)	± 3.49 dB	Confidence levels of 95 % (k=2)
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Vertical)	± 3.85 dB	Confidence levels of 95 % (k=2)
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Horizontal)	± 3.76 dB	Confidence levels of 95 % (k=2)
Radiated emission (30 MHz ~ 300 MHz, 10 m, Vertical)	± 3.21 dB	Confidence levels of 95 % (k=2)
Radiated emission (30 MHz ~ 300 MHz, 10 m, Horizontal)	± 3.32 dB	Confidence levels of 95 % (k=2)
Radiated emission (300 MHz ~ 1 000 MHz, 10 m, Vertical)	± 3.77 dB	Confidence levels of 95 % (k=2)
Radiated emission (300 MHz ~ 1 000 MHz, 10 m, Horizontal)	± 3.84 dB	Confidence levels of 95 % (k=2)



6.4 Limit

Frequency (MHz)	FCC Limit @ 3 m. dB μ V/m	CISPR Limit @ 10 m. dB μ V/m
30 ~ 88	40.0	30.0
88 ~ 216	43.5	30.0
216 ~ 230	46.0	30.0
230 ~ 960	46.0	37.0
960 ~ 1 000	54.0	37.0
> 1 000	54.0	No Specified limit

6.5 Test Equipment used

Model Name	Manufacturer	Description	Serial Number	Due to Calibration
■ - ESI	Rohde & Schwarz	EMI test receiver	830482/010	12. 11. 2010
■ - VULB9160	Schwarzbeck	Broadband Test Antenna	3099	07. 21. 2011
■ - BBHA9120D	Schwarzbeck	Horn ANT	597	12. 18. 2010
■ - MCU066	maturo GmbH	MCU066	1390306	N/A
■ - TT2.5SI	maturo GmbH	Turntable	1390307	N/A
■ - AM 4.0	maturo GmbH	Antenna Mast	1390308	N/A
■ - AFS 44 00101800-25-10P-44	MITEQ	Preamplifier	1258943	11. 12. 2010

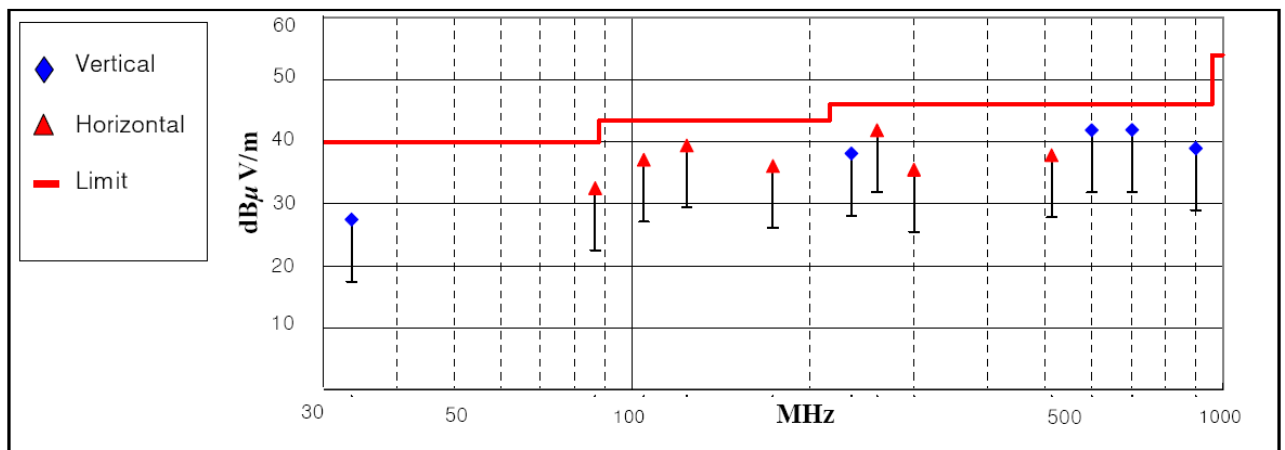
6.6 Test data for Radiated Emission

- Test Date : December 15, 2009
- Resolution Bandwidth : 120 kHz/1 MHz
- Frequency Range : 30 MHz ~ 5 000 MHz
- Measurement Distance : 3 m
- Note : The highest frequency of the internal source of the EUT is between 500 MHz and 1 000 MHz (667 MHz). The measurement was made up to 5 000 MHz



- ◆ Operating Condition: 1 920 * 1 080 / 60 Hz (RGB: Analog mode)
Detector mode: Quasi- peak detector mode

Frequency (MHz)	Measurement Level				Limit (dB μ V/m)	Margin (dB)	Positioning System		
	Reading	Antenna	Cable	Test Result			Pol.	Height	Angle
	Value(dB μ V)	Factor(dB/m)	Loss(dB)	(dB μ V/m)			(H/V)	(cm)	(°)
33.54	13.67	11.87	1.96	27.50	40.00	12.50	V	100	90
86.65	21.45	8.19	2.90	32.54	40.00	7.46	H	231	198
104.75	24.07	9.91	3.13	37.11	43.50	6.39	H	230	196
123.78	24.41	11.63	3.38	39.42	43.50	4.08	H	225	185
173.29	20.03	12.11	3.94	36.08	43.50	7.42	H	234	169
235.14	22.51	10.88	4.75	38.14	46.00	7.86	V	100	170
259.86	24.92	11.90	5.08	41.90	46.00	4.10	H	100	180
300.06	16.60	13.28	5.62	35.50	46.00	10.50	H	100	7
513.00	13.00	17.81	7.04	37.85	46.00	8.15	H	219	0
600.12	14.13	20.34	7.42	41.89	46.00	4.11	V	187	342
702.00	12.37	21.59	7.97	41.93	46.00	4.07	V	180	169
900.05	5.57	24.21	9.17	38.95	46.00	7.05	V	112	15

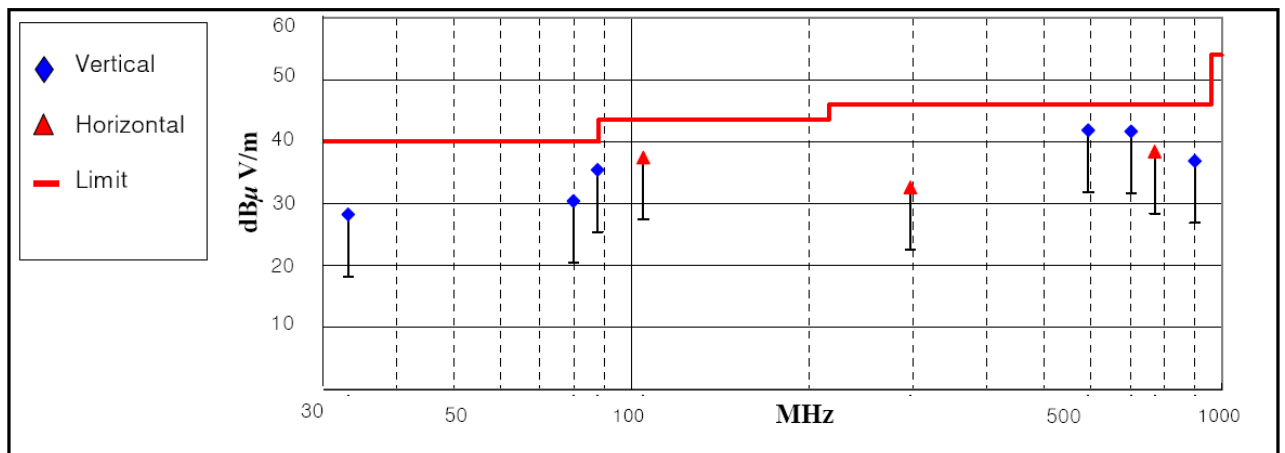


< Fig 14. Radiated emission result (30 MHz ~ 1 000 MHz)>



- ◆ Operating Condition: 1 920 * 1 080 / 60 Hz (HDMI/DVI: Digital mode)
Detector mode: Quasi- peak detector mode

Frequency (MHz)	Measurement Level				Limit (dBμ V/m)	Margin (dB)	Positioning System		
	Reading	Antenna	Cable	Test Result			Pol.	Height	Angle
	Value(dBμ V)	Factor(dB/m)	Loss(dB)	(dBμ V/m)			(H/V)	(cm)	(°)
33.12	14.41	11.88	1.95	28.24	40.00	11.76	V	100	142
79.74	19.51	8.08	2.84	30.43	40.00	9.57	V	100	354
87.65	24.35	8.21	2.91	35.47	40.00	4.53	V	125	306
104.75	24.37	9.91	3.13	37.41	43.50	6.09	H	238	91
297.00	13.84	13.18	5.58	32.60	46.00	13.40	H	100	180
594.00	14.32	20.13	7.38	41.83	46.00	4.17	V	141	330
702.00	12.10	21.59	7.97	41.66	46.00	4.34	V	100	185
769.50	7.06	22.92	8.42	38.40	46.00	7.60	H	210	165
900.07	3.50	24.21	9.17	36.88	46.00	9.12	V	206	270

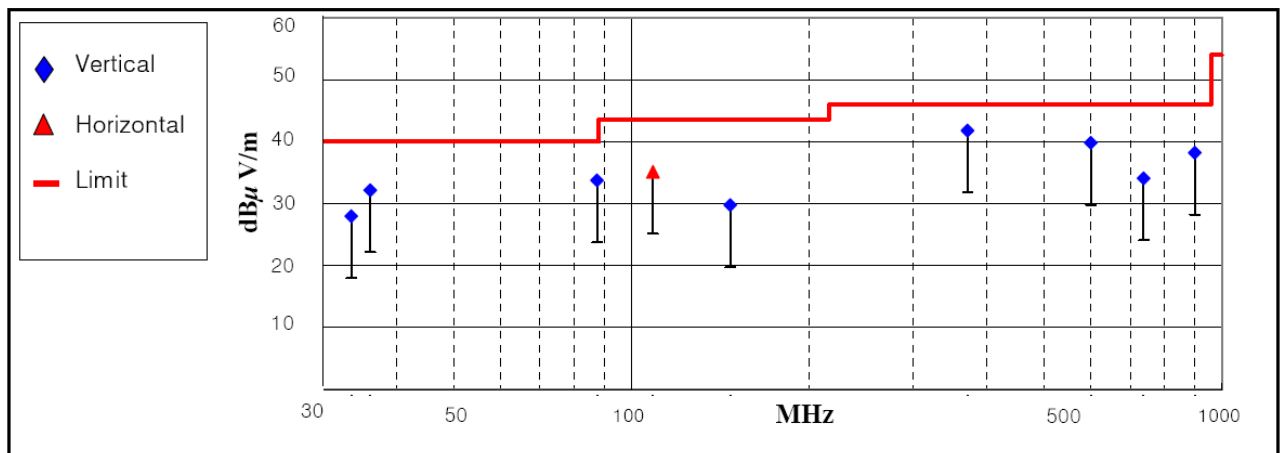


< Fig 15. Radiated emission result (30 MHz ~ 1 000 MHz)>



- ◆ Operating Condition: USB memory stick play mode
Detector mode: Quasi- peak detector mode

Frequency (MHz)	Measurement Level				Limit (dBμ V/m)	Margin (dB)	Positioning System		
	Reading	Antenna	Cable	Test Result			Pol.	Height	Angle
	Value(dBμ V)	Factor(dB/m)	Loss(dB)	(dBμ V/m)			(H/V)	(cm)	(°)
33.54	14.13	11.87	1.96	27.96	40.00	12.04	V	100	182
36.12	18.27	11.87	2.01	32.15	40.00	7.85	V	100	0
87.49	22.63	8.21	2.91	33.75	40.00	6.25	V	108	312
108.78	21.68	10.30	3.18	35.16	43.50	8.34	H	183	96
147.05	13.35	12.74	3.66	29.75	43.50	13.75	V	110	271
370.85	19.77	14.89	7.14	41.80	46.00	4.20	V	100	305
600.06	12.06	20.34	7.42	39.82	46.00	6.18	V	111	351
737.08	3.43	22.43	8.22	34.08	46.00	11.92	V	206	270
900.13	4.84	24.21	9.17	38.22	46.00	7.78	V	210	278



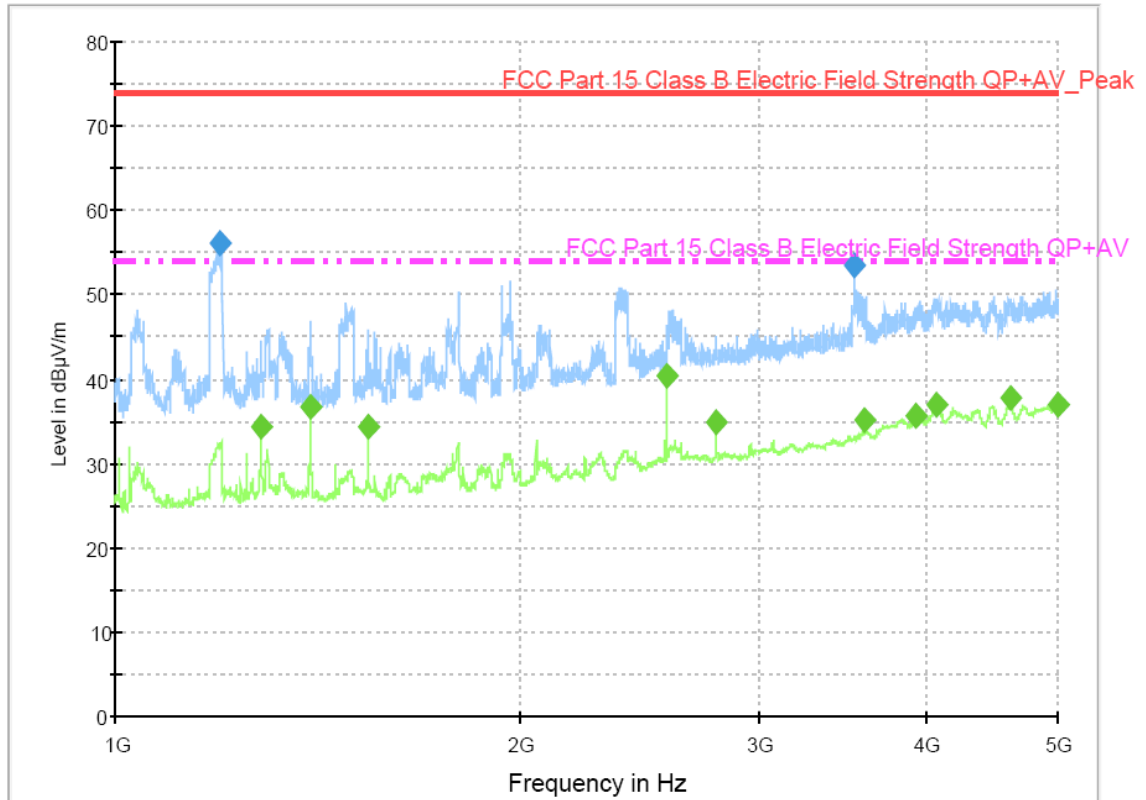
< Fig 16. Radiated emission result (30 MHz ~ 1 000 MHz)>



◆ Operating Condition: 1 920 * 1 080 / 60 Hz (RGB: Analog mode)

Detector mode: Peak detector mode / Average detector mode

FCC_ESIB_Preamplifier with Scans



Final Result 1

Frequency (MHz)	MaxPeak-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1197.600000	56.1	100.0	V	0.0	-15.9	17.9	74.0	
3528.800000	53.6	100.0	H	0.0	-6.6	20.4	74.0	

Final Result 2

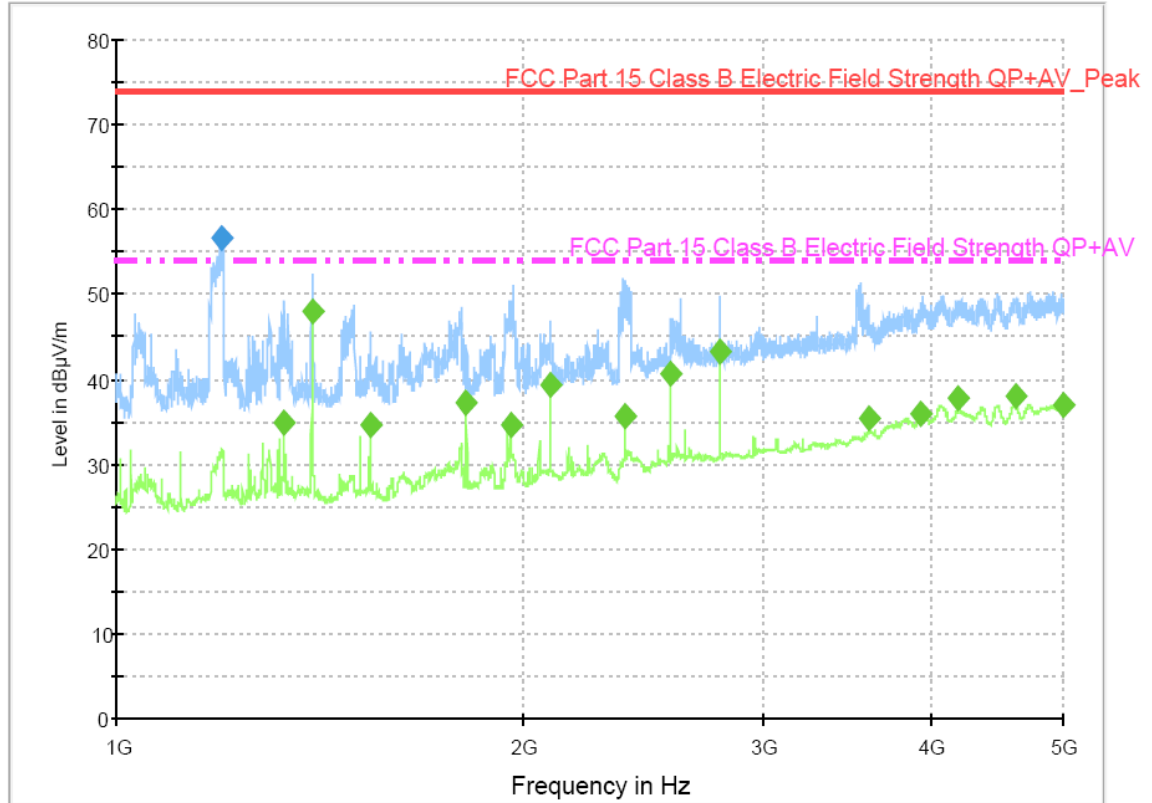
Frequency (MHz)	Average-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1282.400000	34.3	200.0	H	90.0	-15.1	19.7	54.0	
1395.200000	36.6	100.0	V	180.0	-14.8	17.4	54.0	
1539.200000	34.4	100.0	H	180.0	-14.6	19.6	54.0	
2565.200000	40.4	200.0	H	90.0	-10.0	13.6	54.0	
2790.000000	34.9	100.0	V	180.0	-9.3	19.1	54.0	
3591.200000	35.1	100.0	V	180.0	-6.2	18.9	54.0	
3926.000000	35.6	100.0	V	180.0	-3.7	18.4	54.0	
4065.200000	36.9	100.0	V	180.0	-3.2	17.1	54.0	
4608.000000	37.7	100.0	V	180.0	-3.2	16.3	54.0	
4998.800000	37.0	200.0	V	180.0	-2.4	17.0	54.0	

< Fig 17. Radiated emission result (1 000 MHz ~ 5 000 MHz)>



- ◆ Operating Condition: 1 920 * 1 080 / 60 Hz (HDMI/DVI: Digital mode)
Detector mode: Peak detector mode / Average detector mode

FCC_ESIB_Preamp_RE with Scans



Final Result 1

Frequency (MHz)	MaxPeak-MaxHold (dBμV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
1196.400000	56.5	100.0	V	0.0	-15.9	17.5	74.0	

Final Result 2

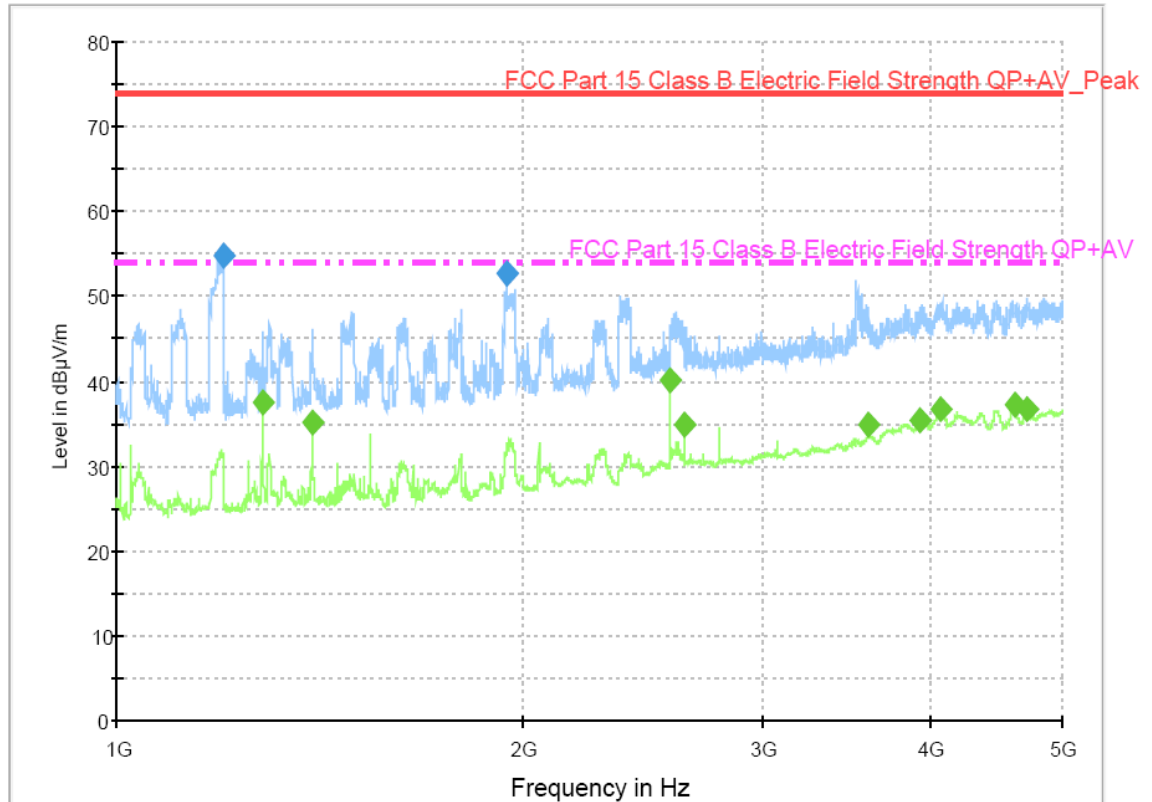
Frequency (MHz)	Average-MaxHold (dBμV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
1329.600000	35.0	100.0	V	180.0	-14.9	19.0	54.0	
1395.200000	48.1	100.0	V	180.0	-14.8	5.9	54.0	
1538.800000	34.7	100.0	H	180.0	-14.6	19.3	54.0	
1813.600000	37.2	100.0	V	180.0	-13.8	16.8	54.0	
1953.200000	34.5	100.0	H	180.0	-13.1	19.5	54.0	
2092.800000	39.4	100.0	V	180.0	-12.2	14.6	54.0	
2371.600000	35.8	100.0	V	180.0	-10.8	18.2	54.0	
2565.200000	40.8	200.0	H	90.0	-10.0	13.2	54.0	
2790.000000	43.2	100.0	V	180.0	-9.3	10.8	54.0	
3591.200000	35.4	100.0	H	0.0	-6.2	18.6	54.0	
3926.000000	35.8	100.0	V	270.0	-3.7	18.2	54.0	
4185.200000	37.9	100.0	V	180.0	-3.3	16.1	54.0	
4608.000000	38.0	100.0	V	180.0	-3.2	16.0	54.0	
4998.400000	37.1	200.0	V	90.0	-2.4	16.9	54.0	

< Fig 18. Radiated emission result (1 000 MHz ~ 5 000 MHz)>



- ◆ Operating Condition: USB memory stick play mode
Detector mode: Peak detector mode / Average detector mode

FCC_ESIB_Preamplifier_RE with Scans



Final Result 1

Frequency (MHz)	MaxPeak-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1198.800000	54.9	100.0	V	0.0	-15.9	19.1	74.0	
1943.600000	52.7	100.0	H	90.0	-13.2	21.3	74.0	

Final Result 2

Frequency (MHz)	Average-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1282.400000	37.5	100.0	H	0.0	-15.1	16.5	54.0	
1395.200000	35.2	100.0	V	180.0	-14.8	18.8	54.0	
2565.200000	40.1	200.0	H	90.0	-10.0	13.9	54.0	
2628.000000	34.9	100.0	H	180.0	-9.8	19.1	54.0	
3591.200000	34.8	100.0	H	0.0	-6.2	19.2	54.0	
3926.000000	35.4	200.0	H	270.0	-3.7	18.6	54.0	
4064.800000	36.7	100.0	H	0.0	-3.2	17.3	54.0	
4608.000000	37.3	100.0	V	180.0	-3.2	16.7	54.0	
4716.800000	36.7	100.0	V	180.0	-3.0	17.3	54.0	

< Fig 19. Radiated emission result (1 000 MHz ~ 5 000 MHz)>



7. Sample Calculations

$$\begin{aligned} \text{dB}\mu\text{V} &= 20 \text{ Log}_{10}(\mu\text{V}/\text{m}) \\ \text{dB}\mu\text{V} &= \text{dBm} + 107 \\ \mu\text{V} &= 10^{(\text{dB}\mu\text{V}/20)} \end{aligned}$$

7.1 Example 1 :

■ 20.3 MHz

Class B Limit	= 250 μV = 48 dB μV
Reading	= 39.2 dB μV
$10^{(39.2\text{dB}\mu\text{V}/20)}$	= 91.2 μV
Margin	= 48 dB μV - 39.2 dB μV = 8.8 dB

7.2 Example 2 :

■ 66.7 MHz

Class B Limit	= 100 $\mu\text{V}/\text{m}$ = 40.0 dB $\mu\text{V}/\text{m}$
Reading	= 31.0 dB μV
Antenna Factor + Cable Loss = 5.8 dB	
Total	= 36.8 dB $\mu\text{V}/\text{m}$
Margin	= 40.0 dB $\mu\text{V}/\text{m}$ – 36.8 dB $\mu\text{V}/\text{m}$ = 3.2 dB



8. Recommendation & Conclusion

The data collected shows that the **LG Electronics Inc. LED LCD TV/Monitor (Model Name: 55LE7500-UC, 55LE5400-UC, 55LE5500-UA)** was complies with §15.107 and 15.109 of the FCC Rules.